



ARCADIS RAB Presentation

October 23, 2014





This is the story of...

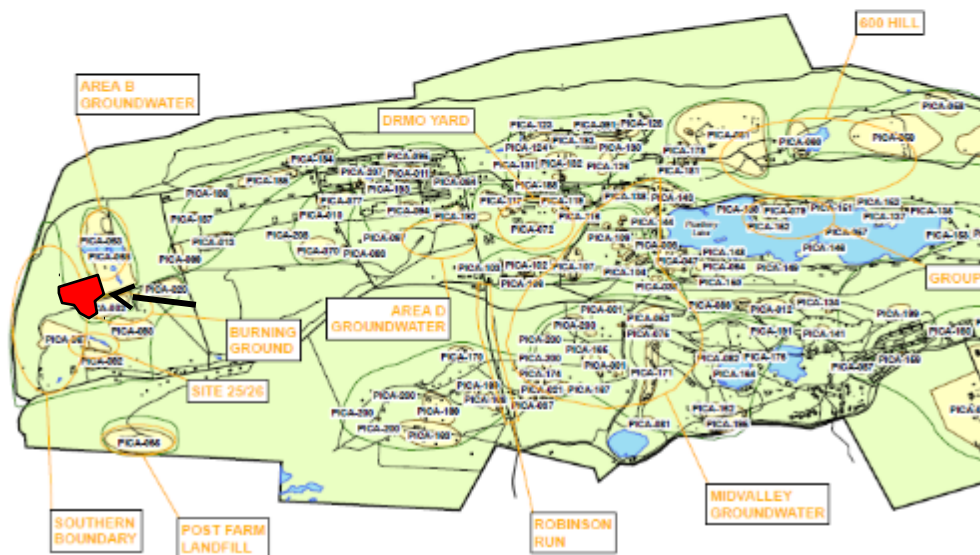
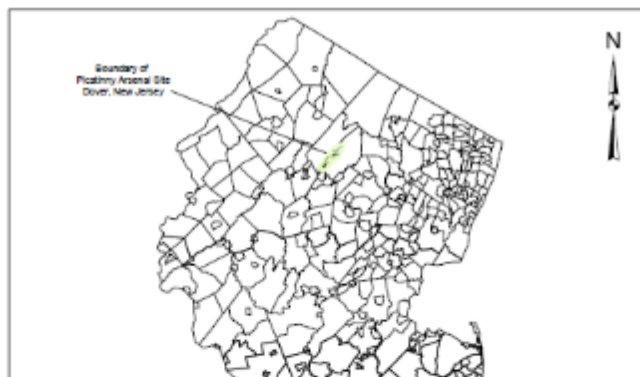
Site 34 (PICA-002) - Former Lower Burning Ground

Also known as: RI Study Area A, (which includes parts of RI Study Area C, Green Pond Brook, Site 180 Waste Burial Area)



~~Site 34 (PICA-002)~~

Former Lower Burning Ground

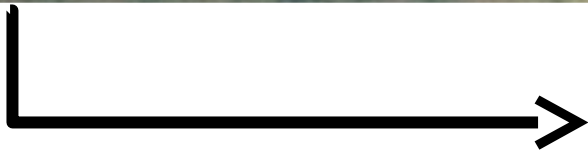


- 7 Acre site used for opening burning and 'flashing' of off spec material/debris
- 4 acres of freshwater wetlands
- PAHs, Lead, PCBs, dioxins in soil
- Unacceptable cancer risk and non cancer hazard to human health





What does
it take to go
from A to
B?



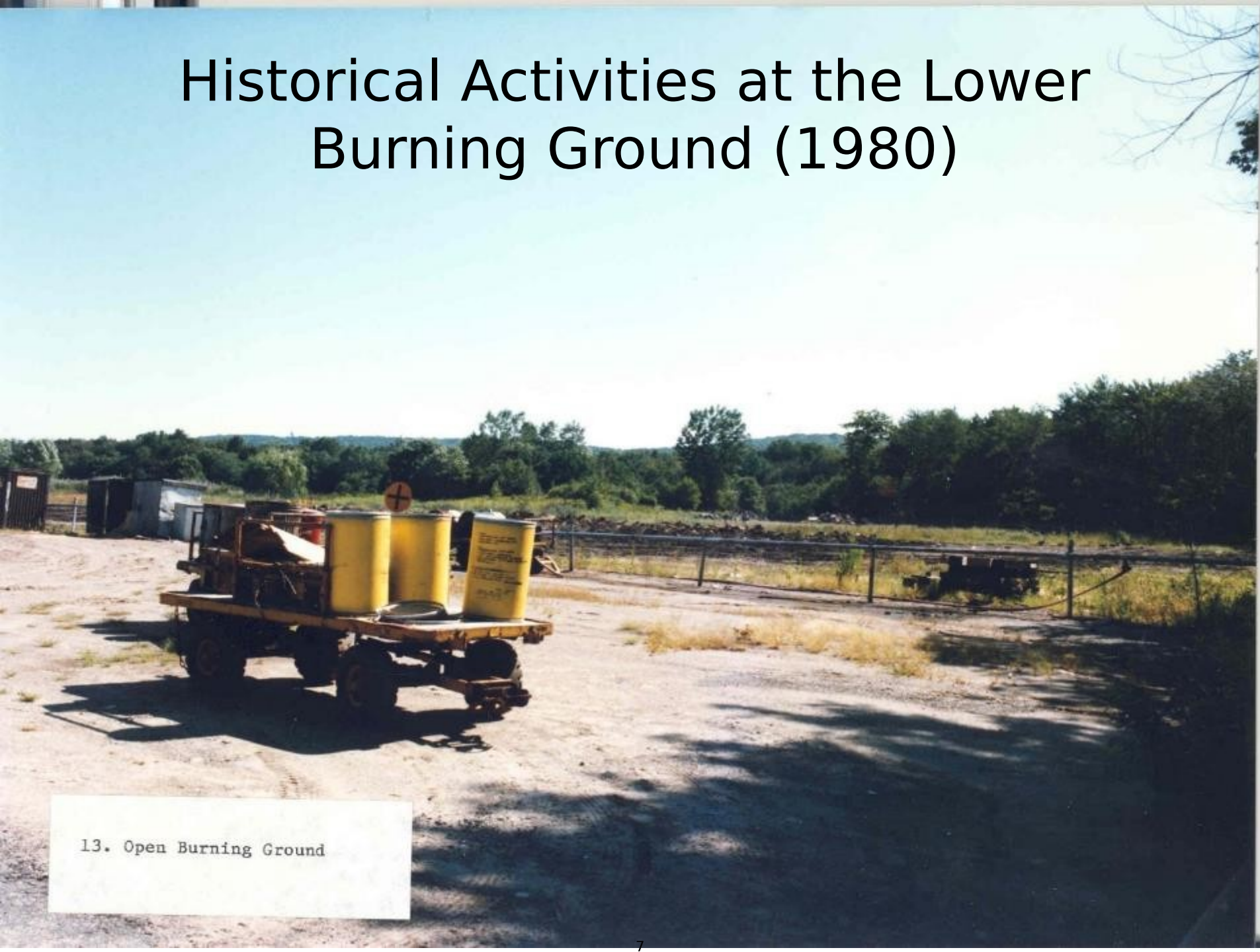
Historical Activities at the Lower Burning Ground (1980)



October 2014



Historical Activities at the Lower Burning Ground (1980)



13. Open Burning Ground



Historical Activities at the Lower
Burning Ground (1980)

October 2014



Historical Activities at the Lower Burning Ground (1980)



October 2014



March 2012



September 2014



March 2014



October 2014





What does it take to
go from A to B?



TIME AND MONEY!

- Time! 24 years
 - Contamination Assessment, Remedial Investigation, Feasibility Study, Proposed Plan, Record of Decision, Explanation of Significant Differences, Remedial Design, Remedial Action Report
- ARCADIS involved the last 8 years
 - Firm Fixed Price Contract for Remediation
 - Over \$1.0M of subcontractor services and material sourced locally
 - Tomco Construction, Rockaway Recycling, B&B Drilling, C&V Paving, GTS Consultants (Surveyors)



PEOPLE!

- 40+ person Army/Govt. Team and Stakeholders: Picatinny (Restoration PM, DPW, Safety, ARDEC, Cultural Resources, Natural Resources, Public Affairs, Legal), Baltimore Dist. COE, New York Dist. COE, Army Environmental Command ERM and Legal, USEPA, NJDEP, RAB Members
- 40+ person ARCADIS Team: engineers, construction workers, environmental scientists, geologist, UXO personnel, ecologists, asbestos specialists, managers, administrative assistants, and contracting support.
 - Millersville, MD; Baltimore, MD; Newtown, PA; Tampa, FL; Cranbury, NJ; Edison, NJ; Fair Lawn, NJ; Rochester, NY; Raleigh, NC; Kennesaw, GA; Denver, CO.



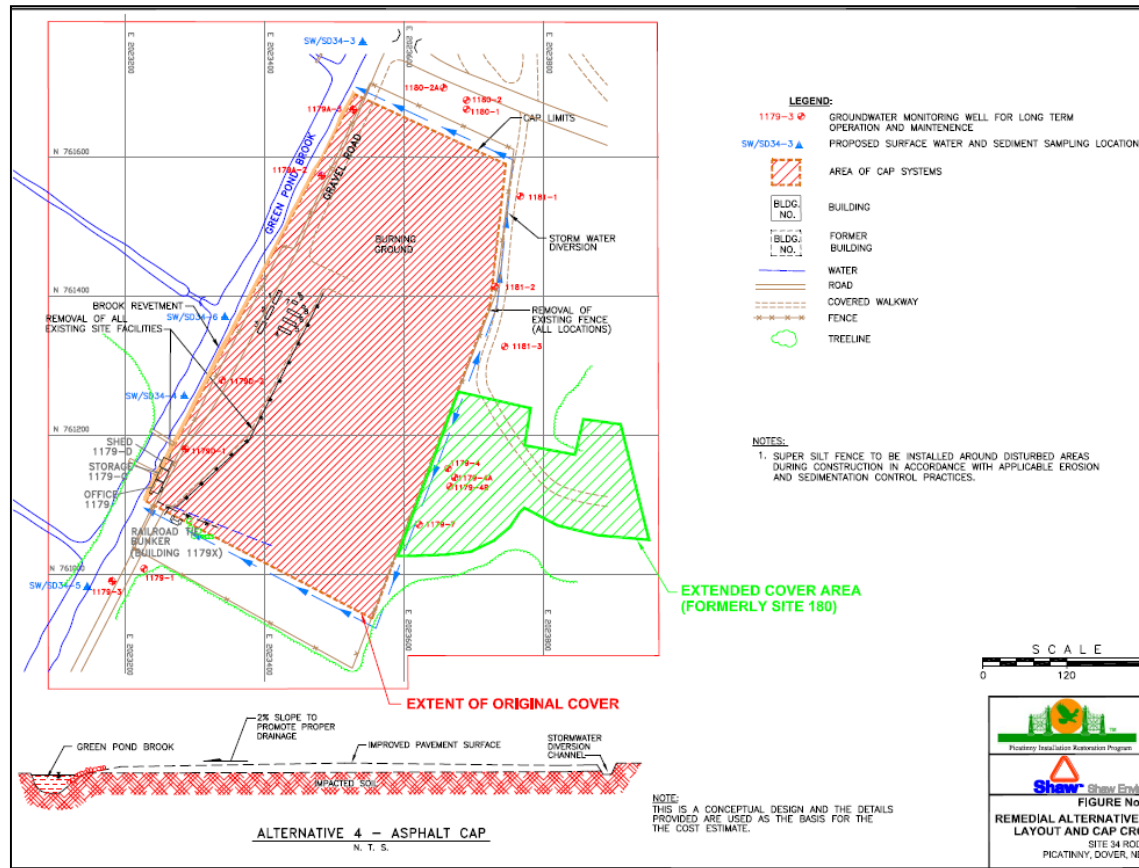
THE EXPECTED AND UNEXPECTED

- Planning, Ingenuity, Communication, Team Work, Hard Work, Luck, People, Effort....
- 12 acres of unused Army property for wetland mitigation
- What else does it take?
 - A 400 pound 6 inch thick piece of Plexiglas (ingenuity)
 - 3,000 truck trips (effort)
 - Helping a metal recycler understand the red wax inside of munition debris is really red wax (team work and communication)
 - Getting an excavator stuck in a swamp (bad luck, hard work, ingenuity, communication)



The Beginning...

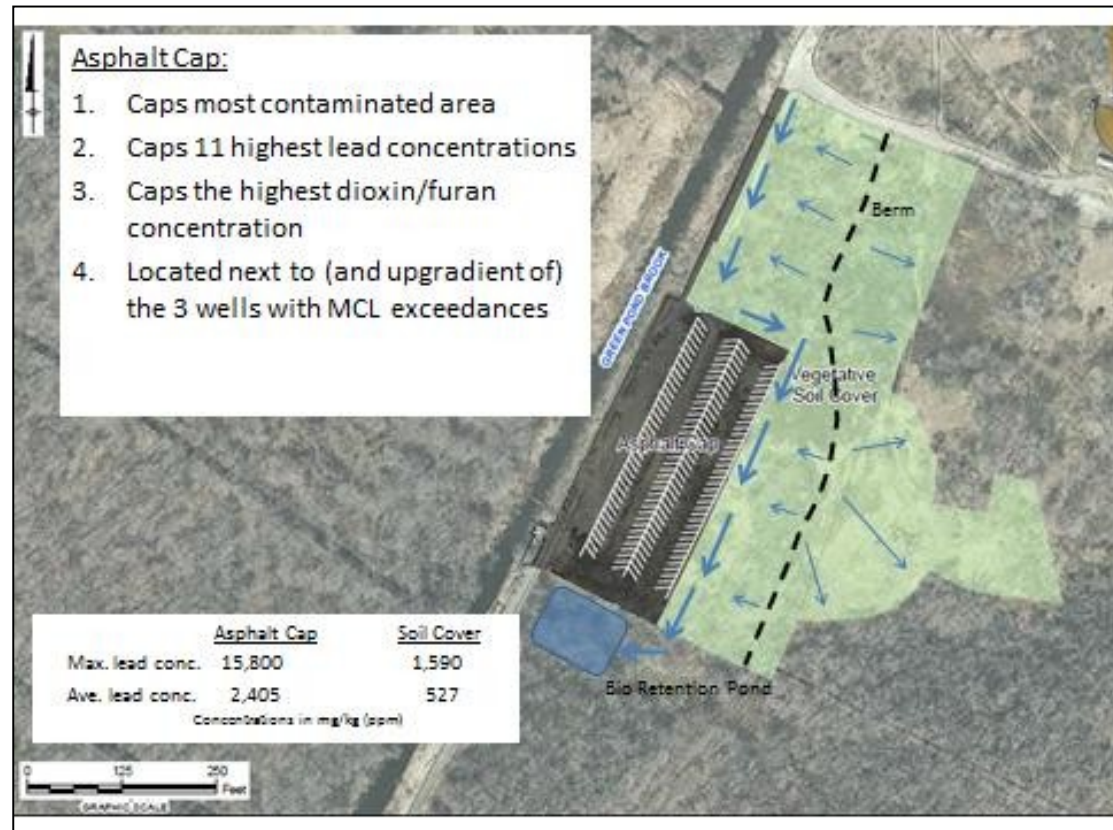
- First documented site activities are in 1960
- First samples collected in 1990, RI in 1998
- Public Meeting 2/19/2004
- Signed ROD in 2005 for 7 acres of asphalt cap
- Army actively used the Site under RCRA permit until 2011





The Middle (part 1)...

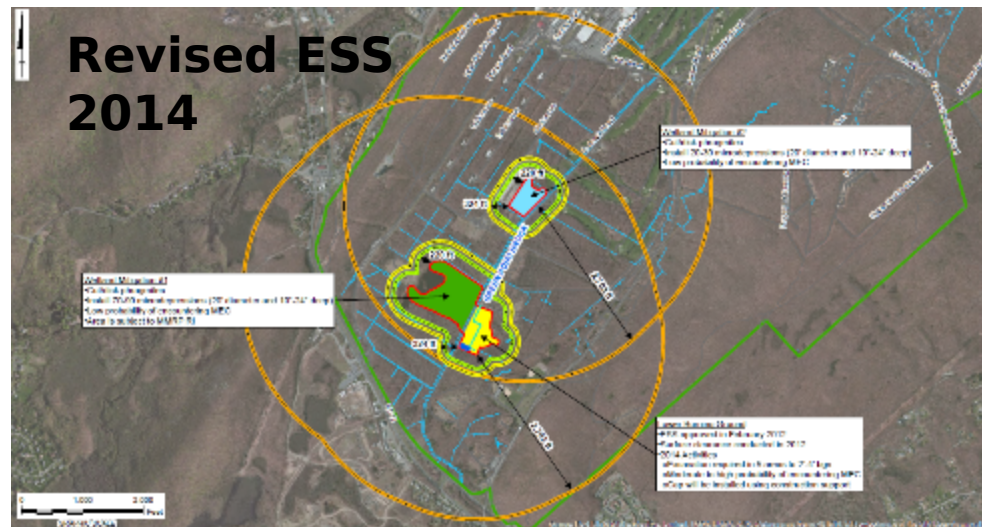
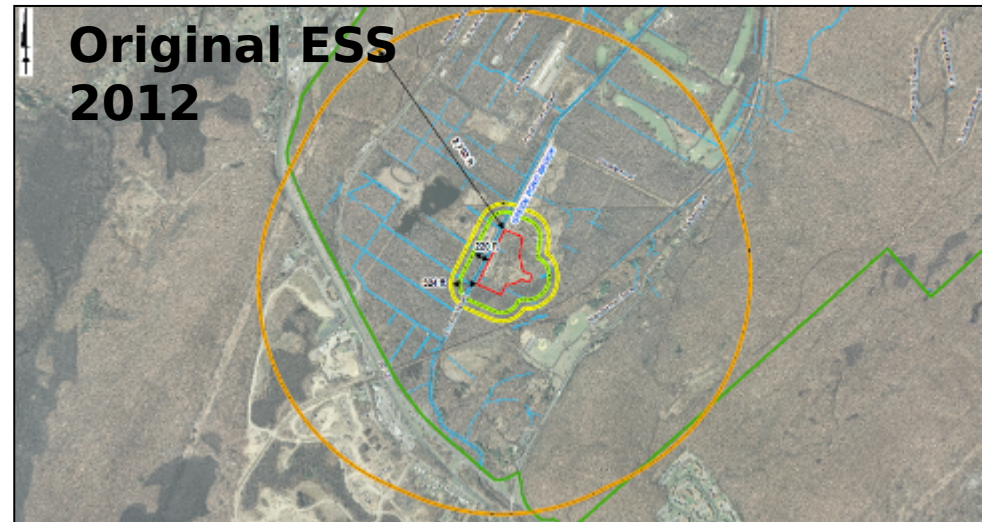
- NJDEP classifies Green Pond Brook as C-1 waterway
- Riparian zone increases
- SW regulations tighten
- ARCADIS and Army advance idea of hybrid cover





The Middle (part 2)...

- USEPA/NJDEP accept hybrid cap idea, require Explanation of Significant Differences (ESD)
- Contract modification required to comply with new NJDEP regulations
- ESD prepared concurrent with Remedial Design
- Explosive Safety Submittal (ESS) required (and amended) to handle MEC





The End...

- Signed ESD and approved RD in 2014
- Remedial Action Included:
 - Tree clearing on 9 acres before March 31 (to protect endangered Indiana Bat)
 - Surface clearance of all MEC
 - Asbestos abatement, demolition, and removal of 3 buildings
 - Minor subgrading for swale and pond with subsurface MEC clearance
 - 7 acre soil cover (2 ft thick with geotextile layer)
 - 1.5 acre asphalt cap (12 in subbase with 4 in asphalt)
 - 12 acres of wetland mitigation (enhancement)



Picatinny Arsenal Restoration Advisory Board Meeting



Site Controls and Erosion and Sediment Controls





Picatinny Arsenal Restoration Advisory Board Meeting



Building Demolition





Picatinny Arsenal Restoration Advisory Board Meeting



Subbase Preparation



Facing south. Soil cover subbase on left.
Bio-Retention pond in background.

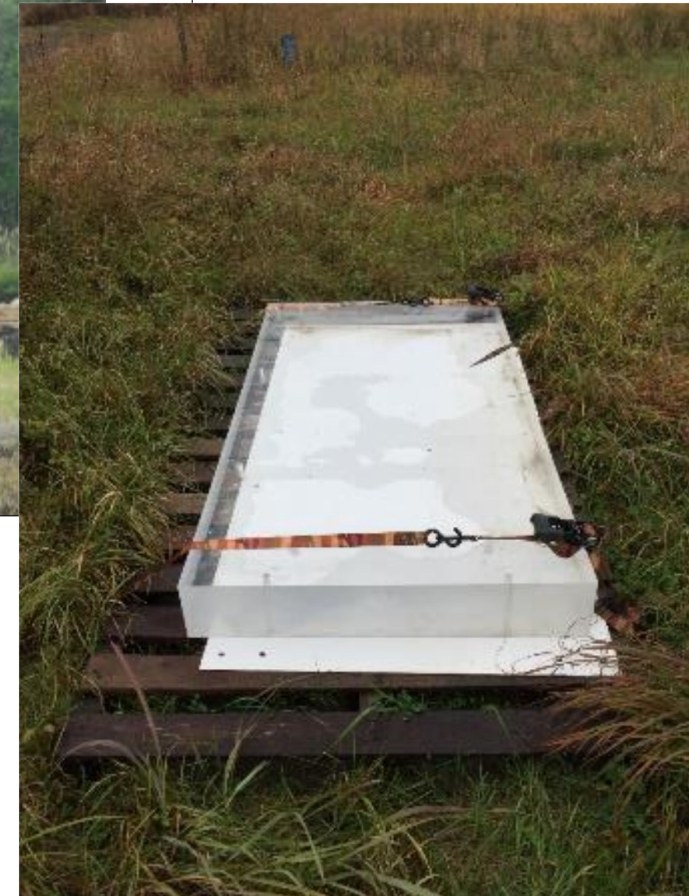


Facing southeast. Soil cover subbase.





Bio-Retention Pond Construction



Bio-Retention pond





Picatinny Arsenal Restoration Advisory Board Meeting



UXO Construction Support and Clearance





Picatinny Arsenal Restoration Advisory Board Meeting



Beginning Placement of Top Soil

July 20, 2014





Picatinny Arsenal Restoration Advisory Board Meeting



Beginning Placement of Top Soil

July 20, 2014





Picatinny Arsenal Restoration Advisory Board Meeting



Wetland Mitigation Plants



Wetland Mitigation Area 1.



Access to Wetland Mitigation Area 1





May 2014

May 2014



June 2014





Wetland Mitigation





Road Repair - 20 Oct 2014



Damage on Shinkle
Rd



Shinkle Rd Repairs
Oct 2014





The Future...

- Groundwater monitoring, Wetland Mitigation Maintenance, Land Use Controls/Cover Maintenance
- Solar Farm
 - 3,168 Suniva 325 Watt solar panels in the final design with a contract already in-place for 1,786 of those
 - Anticipated Production: 580 kWatt DC
 - Racking system will be ballasted
 - Three inverters







QUESTIONS?



THANK YOU!

Over
138,000
hours worked

8
Years

Over 300
ARCADIANS

13 RODs
Signed

No OSHA recordable
injuries ◀

26 RAB
Meetings

81 Sites with Remedy in Place
(RIP)

Over 90,100 gallons of carbon substrate
injected

2 Formal Legal
Disputes ■■

Collected over 5,000
samples ◀

Analyzed for over 400 unique
parameters

1 CNN Special on “Green Remediation” at
Picatinny

5,000+ cy of soil removed from
Picatinny

15+ acres of caps/covers
installed

◀ 5,972 emails from Ted Gabel (and
counting...) ◀